

VAGNER, R.I.

Complications appearing during Crile's operation, their prevention  
and treatment. Trudy Inst.onk.AMN SSSR no.4:13-26 '62.  
(MIRA 15:9)

(LYMPHATICS--SURGERY) (NECK--CANCER)

SMIRNOV, N. K. (Leningrad, C-124, ul. Krasnykh Tekstil'shchikov,  
d. 3/10, kv. 5); VAGNER, R. I.

Prescalene biopsy in cancer of the lung. Grud. khir. 4 no.3:  
22-26 My-Je '62. (MIRA 15:7)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - chlen-korrespon-  
dent AMN SSSR prof. A. I. Rakov) Instituta onkologii (dir. -  
deystvitel'nyy chlen AMN SSSR prof. A. I. Serebrov) AMN SSSR.

(LUNGS--CANCER) (CHEST--BIOPSY)

VAGNER, R.I. (Leningrad, pr. Engel'sa, d.28, kv.98)

Technic for the excision of cervical lymph nodes. Vest.khir.  
89 no.9:69-7 S '62. (MIRA 15:12)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - prof. A.I.Rakov)  
Instituta onkologii (dir. - prof. A.I.Serebrov) AMN SSSR.  
(NECK--SURGERY) (LYMPHATICS--SURGERY)

MAR'IN, N.D.; VAGNER, P.I.

Use of hemithiamine-induced sleep for bronchoscopy in patients  
with lung cancer. Vop. onk. 11 no.12:9-14 '65. (MIRA 19:1)

1. Iz II khirurgicheskogo otdeleniya (zav. - chlen-korrespondent  
AMN SSSR prof. A.I. Rakov) Instituta onkologii AMN SSSR (dir. -  
deystvitel'nyy chlen AMN SSSR zasluzhennyy deyatel' nauki RSFSR  
prof. A.I. Serebrov).

TIYVEL', Kh.A. [Tiivel, H.]; VAGNER, R.I.

Scope of operative intervention in so-called lateral aberrant  
strumas. Vop. onk. 11 no.7:94-100 '65. (MIRA 18:9)

1. Iz I khirurgicheskogo otdeleniya (zav.- chlen-korrespondent  
AMN SSSR prof. S.A. Kholdin) i II khirurgicheskogo otdeleniya  
(zav.- chlen-korrespondent AMN SSSR prof. A.I. Rakov) Instituta  
onkologii AMN SSSR (dir.- deyatvitel'nyy chlen AMN SSSR prof.  
A.I. Serebrov).

VAONER, R.M., kand. biol. nauk.

Creation of a specific serum against the mosaic virus of winter wheat. Dokl. Akad. sel'khoz. 22 no.12:20-21 '57. (MIRA 11:4)

1. Moskovskaya stantsiya zashchity rasteniy.  
(Mosaic disease) (Wheat—Diseases and pests)

5 VAGNER

- RUMANIA/Cultivated Plants. Fruits. Berries.

M

Abs Jour: Ref Zhur-Biologiya, No 5, 1958, 20495.

Author : S. Vagner

Inst : Not given

Title : The Apricot Crop in the District of Aiud. (Kul'tura abrikosa v rayone Ayud).

Orig Pub: Gradina, via si livada, 1957, 6, No 4, 74-79.

Abstract: The soil and climatic peculiarities of the district of Ayud (RNR) and the conditions for raising apricots are treated. The best stock for apricots is the local red plum which in distinction to the alycha plum (*Prunus divaricata*) and the ungrafted apricot is characterized by its slow growth, late blossoming (thanks to which the trees are not subject to the late frosts), good grafting coalescing, and long life (from 30-35 years). Aside

Card : 1/2

RUMANIA/Cultivated Plants. Fruits. Berries.

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Abs Jour: Ref Zhur-Biol., No 5, 1958, 20495.

from this, the trees grafted on the local plum are hardier  
in relation to withering and less sensitive to the sharp  
temperature variations during the winter season.

Card : 2/2



CZECHOSLOVAKIA/Electronics - Electron Radiation Tubes

H-6

Abs Jour : Ref Zhur - Fizika, No 8, 1958, No 18433

Author : Holy Bohumil, Vagner Stanislav

Inst : Higher Institute for Vacuum Electronics, Prague, Czechoslovakia

Title : Kvantikon 41ZV40.

Orig Pub : Slaboproudy obzor, 1957, 18, No 12, 855-857

Abstract : A description of the operating principle, arrangement, technology of manufacture, and properties of a transmitting television tube "Kvantikon 41ZV40" (of Czechoslovak manufacture) with a semiconductor receiving element. It's operating characteristics are given and the time delay is analyzed in detail. Bibliography, 7 titles.

Card : 1/1

27

VAGIN, S.B.

Waters in Mesozoic sediments of the Astrakhan oil- and gas-  
bearing province. Izv. vys. ucheb. zav.; neft' i gaz 2 no.5:  
7-14 '59. (MIRA 12:8)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti  
im. akademika I.M. Gibkina.  
(Astrakhan Province--Oil field brines)

VAGNER, S.D.; KAGAN, Yu.M.; PEREL', V.I.

Determination of plasma parameters by the double probe method. Vest.  
Len.un.11 no.22:75-78 '56. (MLRA 10:2)  
(Electric discharges through gases) (Electrons)

07221

S/058/60/000/011/003/00-  
A001/A001

24.2310

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 11, p. 316, # 30552

AUTHOR: Vagner, S.D.

TITLE: On a Connection Between the Ionic and Electronic Concentrations and Currents Towards the Probe in the Electric Discharge Plasma in a Binary Gas Mixture

PERIODICAL: Uch.zap. Petrozavodskogo un-ta, 1957 (1958) Vol. 5, No. 4, pp. 129-131

TEXT: A way is proposed of determining the ionic concentrations of individual components of a binary mixture by the probe method, which is applicable in case of considerable difference between the masses of ions. The concentration of electrons and electronic current towards the probe at space potential are determined from the probe characteristic to find the ionic concentration; the ratio of the layer area around the probe to the probe area is determined from the "generalized  $3/2$ -law" for binary mixtures. By the method described were measured the concentrations of ions in the positive discharge column in a neon-mercury mixture. At the pressure of mercury vapor being  $1 \times 10^{-3}$  mm Hg and that of neon

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87211

S/058/60/000/011/003/007

AO01/A001

On a Connection Between the Ionic and Electronic Concentrations and Currents Towards the Probe in the Electric Discharge Plasma in a Binary Gas Mixture

being 0.75 mm Hg, only mercury ions are practically present in the plasma. At the increased neon pressure up to 1 - 3 mm Hg, the concentration of neon ions amounts to 20 - 25 % of the total ionic concentration.

ASSOCIATION: Petrozavodskiy un-t (Petrozavodsk University)

G.S. Solntsev

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

AUTHORS: Vagner, S.D., Kagan, Yu.M., Romanova, Ye.V. 54-10-2-2/16

TITLE: The Influence of a Magnetic Field Upon a High Frequency Discharge (Vliyaniye magnitnogo polya na vysokochastotnyy razryad)

PERIODICAL: Ventnik Leningradskogo Universiteta, Seriya fiziki-khimii, 1958, Vol. 10 Nr 2, pp. 15-17 (USSR)

ABSTRACT: For the determination of the plasma parameters of a highfrequency discharge the two-probe method (Refs 1,2,3) was developed. This improved method was employed by the authors for measuring the plasma parameters of a highfrequency discharge in a weak magnetic field. The dependence of the temperature of the electron gas  $T_e$  and of the concentration of the charged particles  $n$  on the current in the solenoid is shown (table 1).  $T_e$  and  $n$  are average quantities obtained from a number of measurements and agree well with each other. The  $T_e$  values were determined by the methods described in former papers (Refs 1,2). The results obtained by the two methods are, practically, in agreement. The second method makes it possible to judge the presence of a Maxwell electron distribution according to velocities. The characteristics worked out

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The Influence of a Magnetic Field Upon  
a High Frequency Discharge

54-10-2-1/16

by this method showed that in the plasma of a high frequency discharge the electrons retain Maxwell's velocity distribution also in the presence of a weak magnetic field. It may be seen from the table that the temperature of the electron gas  $T_e$  drops a little with an amplification of the magnetic field. The concentration of the charged particles on the tube axis increases with amplification of the magnetic field from 0-50  $\mu$ sted by about 12 times its amount. As already mentioned, the temperature values of the electron gas obtained by means of the two-probe method are determined by the distribution of the fast electron groups according to velocities. This distribution need not agree with that of more inert electrons, which are dealt with by Langmuir's probe method. There are 1 figure, 1 table, and 7 references, 5 of which are Soviet.

SUBMITTED: July 7, 1956

AVAILABLE: Library of Congress

Card 2/2 1. High frequency discharges--Magnetic factors

VAGNER, S.D.; KAGAN, Yu.M.; ROMANOVA, Ye.V.

Effect of a magnetic field on high frequency [with summary in  
English]. Vest. LGU 13 no10:15-17 '58. (MIRA 11:6)  
(Magnetic fields)  
(Electric discharges through gases)



24(6)

AUTHOR:

Vagner, S. D.

SOV/57-58-12-14/15

TITLE:

On the Paper by V. I. Tverdokhlebov "Relation Between the Langmuir Method of Probe Characteristics and the Two-Probe Method in the Determination of Electron Temperature"(Ref 1)  
(Po povodu stat'i V. I. Tverdokhlebova "Svyaz' v opredelenii elektronnoy temperatury mezhdu metodom zondovykh kharakteristik Lengmyura i metodom dvukh zond")

PERIODICAL:

Zhurnal tekhnicheskoy fiziki, 1958, <sup>28-</sup>Nr 12, pp 2739-2740 (USSR)

ABSTRACT:

This is a letter to the editor. A number of errors in the derivation of formula (7) from formula (6) is shown. The formula established by Biberman and Panin is derived. There is 1 Soviet reference.

ASSOCIATION:

Karel'skiy pedagogicheskiy institut, Petrozavodsk (Karel'skiy Pedagogical Institute, Petrozavodsk)

SUBMITTED:

June 12, 1957

Card 1/1

24.3000

75335

SOV/57-29-10-12/18

AUTHOR: Vavilin, Ye. I., Vagner, S. D., and Drukman, A. M.

TITLE: Characteristics of a High-Frequency Mercury Discharge  
in a Constant Magnetic Field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1959, Vol 29, Nr 10, pp  
1263-1270 (USSR)

ABSTRACT: The paper gives the results of an experimental study of  
the effect of a longitudinal constant magnetic field on  
a high-frequency mercury discharge. The same two-probe  
method is used as that employed by all other investi-  
gators, and the results obtained are compared with  
those obtained by the optical photometric method. The  
latter method consisted in measuring the intensity of  
the 4916A line when the magnetic field is on, and  
when it is switched off. The frequency is 7.5 mega-  
cycles, and the voltage is measured with an electro-  
static voltmeter connected to a capacitive divider.  
The spectrometer is of the PS-2 (Tr C-2) type set

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Characteristics of a High-Frequency Mercury  
Discharge in a Constant Magnetic Field

75335

SOV/57-29-10-12/18

longitudinally with the chamber. A ten-step reducer recorded the intensity marks. The magnetic field intensity varied between 0 and 68 oersteds, and the mercury gas pressure varied between  $0.5 \times 10^{-3}$  and  $8.9 \times 10^{-3}$  mm Hg. The results have shown that the electronic temperature drops with the increase in the intensity of the magnetic field and with the decrease in mercury gas pressure. As the magnetic field intensity increases, so also increases the concentration of charged particles over the entire cross section of the tube. The concentration reaches its maximum at a gas pressure at which the electron mean free path is much greater than their mean Larmor radii, whether or not the magnetic field is on. When there is no magnetic field the density of the gas current at the walls of the tube is not affected by changes in pressure; just as soon, however, as the field is switched on, the gas density sharply increases. The magnetic field also decreases the transverse electrical

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Characteristics of a High-Frequency Mercury  
Discharge in a Constant Magnetic Field

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field, at all gas pressures. It was noticed that there are two types of discharges, a "weak" and a "strong" discharge; these two words are placed in quotation marks by the authors. The passage from one type of discharge into another is sudden. The "strong" discharge is more luminous, and it has higher conductivity and greater concentration of charged particles than the "weak" discharge. As the intensity of the magnetic field increases, the "weak" discharge suddenly changes into a "strong" one. There are 3 tables; 5 figures; and 11 references, 8 Soviet, 2 U.S., 1 U.K. The U.S. and U.K. references are: Davies, L. W., Proc. Phys. Soc., B66, Nr 397, 33, 1953; Johnson, E., and Malter, L., Phys. Rev., 80, 58, 1950; Guthrie, A., Wakerling, R., The Characteristics of Electrical Discharges in Magnetic Fields, 1949.

ASSOCIATION:

Petrozavodsk State University (Petrozavodskiy gosudarstvennyy universitet)

SUBMITTED:

November 15, 1958

Card 3/3

VAGNER, S.D.; VAN'CHKOVA, N.I.

Effect of a constant longitudinal magnetic field on a high-frequency  
discharge in mercury. Zhur.tekh.fiz. 29 no.12:1475-1477 D '59.  
(MIRA 14:6)

1. Petrozavodskiy gosudarstvennyy universitet.  
(Electric discharges through gases) (Magnetic fields)

84445

S/057/60/030/009/010/021  
B019/B054

26.2313

AUTHORS:

Vavilin, Ye. I., Vagner, S. D., Lanenkina, V. K., and  
Mitrofanova, S. S.

TITLE:

An Investigation of the Positive Discharge<sup>21</sup> Column in a  
Mercury - Neon Mixture

PERIODICAL:

Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 9,  
pp. 1064-1066

TEXT: The authors studied the ion distribution of the mixture components; the measurements were made with probes. The methods and the theory of ion currents on the probes had been developed previously (Refs. 3, 4, and 5). Two formulas are given for the relative ion concentrations of the components of a binary gas mixture. Fig. 1 shows the discharge tube. The results are graphically shown in Fig. 2. It appears that considerable quantities of Ne and Hg ions are present on the cathode side of the positive column. As ionization leads to a decrease in Hg in the anode region, and the relative neon and mercury contents are

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An Investigation of the Positive Discharge  
Column in a Mercury - Neon Mixture

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B019/B054

equal on the cathode side of the tube, the ionization of neon is considerable, irrespective of the low ionization potential of Hg. Variations in the discharge current do not change this result. There are 2 figures and 6 references: 2 Soviet, 1 German, and 2 US. ✓

ASSOCIATION: Petrozavodskiy gosudarstvennyy universitet (Petrozavodsk  
State University)

SUBMITTED: November 16, 1959

Card 2/2

41241

S/194/62/000/007/120/160  
D271/D308

AUTHORS: Vagner, S.D., and Verolaynen, Ya.F.

TITLE: AC component of the electric field in HF discharge plasma

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1962, abstract 7zh383 (Uch. zap. Karel'sk. ped. in-t, 1961, v. 11, no. 1, 69 - 74)

TEXT: HF field strength in discharge plasma in Hg and Hg-He vapor was measured using two probes. The probes were sealed in a ground joint situated in the center of the discharge tube, and could be directed orthogonally to or along the field. Electron temperature, concentration of charged particles and HF field strength were determined from the form of the two-probe characteristics, for these two positions. The voltage frequency applied to external electrodes was 7 Mc/s for discharges in Hg vapor and 8 Mc/s for the Hg-He mixture. Plasma regions were moved towards the probe by changing the position of electrodes. Measurement results showed that field strength in the center does not exceed 3 V/cm in the case of a weak  
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AC component of the electric field ...

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D271/D308

discharge in Hg vapor, at the pressure of  $3.10^{-4}$  mm Hg. Approaching to electrodes, field strength increases up to 15.8 V/cm and electron temperature reaches  $64000^{\circ}\text{K}$ . In the case of a strong discharge in Hg vapor, field strength in the discharge beam is low and the main part of AC voltage occurs in discharge regions situated between beam and electrodes. Concentration of charged particles and electron temperature are higher in the narrow part of the plasma than in the center. When helium is added to Hg vapor, the AC component of field strength in the center increases to 5.9 V/cm; the discharge has in this case the form of a strong beam (but without pinching) in regions adjacent to the electrodes. [Abstracter's note: Complete translation.]

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h123c

S/194/62/000/007/114/160  
D271/D308

AUTHORS: Vagner, S.D., Yelesova, T.D., and Yaskelyaynen, F.S.

TITLE: Optical properties of a positive DC discharge column  
in helium

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,  
no. 7, 1962, 54, abstract 7zh366 (Uch. zap. Karel'sk.  
ped. in-t, 1961, v. 11, no. 1, 75 - 81)

TEXT: Relative intensities of 10 He lines were measured in a pressure range of 0.12 - 0.74 mm Hg, at various values of the discharge current. Electrical parameters of plasma were simultaneously measured using probes. Intensity was measured photographically by means of two characteristic curves. The ion part of the characteristic and the initial section of the electron part were utilized in the analysis of probe characteristics; Maxwellian electron velocity distribution was assumed. Electron temperature was determined from the graph, showing the dependence of logarithm of the common probe current derivative on the anode - probe voltage. In the case of a large photocurrent from the probe surface, the concentration of  
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Optical properties of a positive ...

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D271/D308

charged particles has exaggerated values when determined from the ion part of the characteristic. Comparison of concentration values determined from the ion and electron parts of characteristic shows, however, that photoeffect can be neglected. Results of measurements indicate that the intensities of all investigated lines increase with discharge current. At large pressures a saturation effect is observed explicable by the drop in electron temperature. The agreement between calculated and experimental values of relative intensities shows that deactivation of excited levels is caused mainly by collisions between excited atoms and electrons, and by collisions between excited and normal atoms leading to the formation of molecular ions. 15 references. [Abstracter's note: Complete translation.]

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20927

S/057/61/031/003/011/019  
B125/B209

26.2011

AUTHORS: Vagner, S. D., Zudov, A. I., Khakhayev, A. D.

TITLE: Electrical properties of a high-frequency discharge in argon and potassium vapor in a constant magnetic field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 3, 1961, 336-342

TEXT: The authors investigated the effect of a magnetic field upon the electrical parameters of a h-f discharge in argon and potassium vapor at various pressures. The plasma parameters were examined by a two-probe method. Under the conditions set in this study, the variable difference of the potentials between the plasma regions adjacent to the probes need not be taken into consideration. The discharge tube, which is supplied from a generator, is depicted in Fig. 1. The discharge in argon took place at 4.1 Mc/sec, and that in potassium vapor at 7.5 Mc/sec. The magnetic field was generated by single-layer solenoids. Results of the measurements: Tables 1 and 2 contain the electron temperatures for argon and potassium as depending on pressure and magnetic field strength. The electron temperature decreases, particularly at low temperatures, when a

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B125/B209

magnetic field is applied. The electron temperature seems to be largely determined by processes occurring outside the gas. The measurements made by the authors indirectly prove the hypothesis of J. Salmon (Ann. de Phys., 2, 827, 1957) that in h-f discharges at low pressure, electrons are generated by secondary emission from glass. When no magnetic field is present, the concentration of charged particles in potassium and argon increases monotonically with pressure. At all pressures, a magnetic field increases the concentration of charged particles, for the magnetic field prevents the migration of charged particles to the walls and, thus, prolongs the average time for which an electron remains in the discharge. This again raises ionization. One of the factors favoring equilibrium is the decrease in electron temperature, and another is the rise in density of the current flowing to the wall. These facts speak in favor of a considerable increase in concentration of charged particles over the entire cross section of the tube. After a magnetic field has been applied, the concentration of charged particles no longer depends monotonically on pressure. The reduced effect of a magnetic field upon the discharge at high pressures is due to the fact that the mean free paths of the electrons and the radii of their Larmor frequency are of the same order of magnitude. In the case of argon,

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Electrical properties of a...

the second maximum is related to layers appearing at these pressures. At several values of pressure, two types of h-f discharge in mercury vapor may be observed under equal conditions. In the absence of a magnetic field, the discharge with higher concentration of charged particles on the tube axis and with higher radiation intensity was called "strong", and the other one "weak". The discharge in a magnetic field is called strong or weak, depending on the form it assumes when the field strength is constantly reduced to zero. Application of a magnetic field sometimes caused a weak discharge to go over into a strong one which was conserved even if the magnetic field was turned off. In potassium vapor and argon, both types of discharge appeared at certain pressures, even with otherwise equal conditions. Figs. 2 and 3 illustrate the results of measurements for a "strong" discharge. In mercury and argon, a magnetic field in the range where both types of discharge are observed has a much weaker effect upon a "strong" than upon a "weak" discharge. The optical properties, too, change considerably on transition from a "weak" to a "strong" discharge. Tables 3 and 4 and Fig. 4 illustrate the dependence of the plasma parameters on the magnetic field strength. The authors thank L. Virolaynen and L. Gryzunova for their assistance in the measurements. There are

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Electrical properties of a...

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B125/B209

4 figures, 4 tables, and 12 references: 6 Soviet-bloc and 6 non-Soviet-bloc. The reference to the English-language publication reads as follows: K. Yamamoto a.T.Okuda, Journ.Phys.Soc.Japan,11,no.1, 1956.

ASSOCIATION: Petrozavodskiy gosudarstvennyy universitet (Petrozavodsk State University)

SUBMITTED: March 21, 1960.

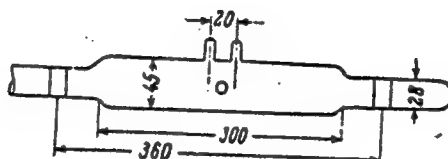


Рис. 1.

Fig. 1

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L 2307-66 EWT(1)/ETC/EPF(n)-2/ENG(m)/EPA(w)-2 IJP(c) AT  
 UR/0057/65/035/008/1423/1427  
 ACCESSION NUR: AP5020730  
 AUTHOR: Vagner, S. D.; Krylov, N. A. 44,55 70  
 TITLE: Influence of a magnetic field on the parameters of a high frequency dis- 64  
 charge B  
 SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 8, 1965, 1423-1427  
 TOPIC TAGS: discharge plasma, high frequency discharge, argon, neon, plasma in-  
 stability, longitudinal magnetic field, electron temperature, electric discharge  
 ionization, plasma diffusion  
 ABSTRACT: The authors have investigated with probes the plasma of a high-fre-  
 quency discharge in a longitudinal magnetic field in order to determine whether  
 there occurs anomalous diffusion analogous to that observed in dc discharge plas-  
 mas (B.Lehnert, Nuovo cimento, Suppl. 13, No.1, 59, 1959). Similarly directed  
 investigations of several other authors are mentioned and that of R.Geller (Phys.  
 Rev. Let., 9, 248, 1962) is criticized; Geller is said not to have taken into ac-  
 count the thickness of the space charge layer at the probe and its variation with  
 magnetic field strength. The discharges were excited in 25 cm long 2.5-3 cm dia-

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ACCESSION NR: AP5020730

meter molybdenum glass tubes by external ring electrodes connected to a 4.2 Mc/sec oscillator. Each discharge tube contained two 4 mm long 0.2 mm diameter cylindrical probes on the axis and two 4.5 mm diameter plane probes diametrically opposite each other at the wall. The tubes were filled with argon at 0.01 or 0.05 mm Hg or with neon at 0.02 or 0.04 mm Hg, and the longitudinal magnetic field was varied from 0 to 500 Oe. The electron temperature, the mean ionization frequency per electron, and the radial electric field strength decreased with increasing magnetic field strength at low magnetic field strengths, and increased with increasing magnetic field strength at magnetic field strengths above a certain critical value. The critical magnetic field strength increased with increasing gas pressure. An increase in the low frequency (1-100 kc/sec) noise in the probe circuit was observed at magnetic field strengths above the critical value. The ionization frequencies calculated from the measured electron temperatures were in reasonable agreement with the measured values except for the heavy discharge in argon; in this case the calculated ionization frequency was some two orders of magnitude greater than the measured. It is suggested that this may be due to escape of charged particles in the axial direction. The behavior of the plasmas above the critical longitudinal magnetic field strength indicates the presence of anomalous losses. These losses are ascribed to an instability, the nature of which is not

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ACCESSION NUR: AP5C20730

entirely clear. The theory of the instability of a dc discharge plasma (B.B. Kadomtsev and A.W. Nedospasov, J. Nuclear Energy, 1, 230, 1960) is not directly applicable. "In conclusion, the authors thank V. Khrustalev for assistance in performing the measurements." Orig. art. has: 6 figures <sup>44, 73</sup>

ASSOCIATION: Karel'skiy pedagogicheskiy institut, Petrozavodsk (Karelian Pedagogical Institute) <sup>44, 55</sup>

SUBMITTED: 31Oct64

ENCL: 00

SUB CODE: ME

NR REF SOV: 003

OTHER: 004

Card 3/3. *nd*

USHAMIRSKIY, M., inzh.; VAGNER, V., inzh.

Experimental large-panel house built of keramzit-concrete  
details. Zhil.stroi. no.8:10-12 '60. (MIRA 13:8)  
(Novokuybyshevsk--Apartment houses)

STUCHLIK, H.; VAGNER, Vl., inz.

Emergency water treatment plant. Vodni hosp 13 no.1:15-17 '63.

1. Zavod pro upravu vody, Praha.

KOLOTILOVA, A.I.; KOROVKIN, B.F.; LYZLOVA, S.N.; VAGNER, V.K.; VASILENKO, E.T.; DZUTSOV, N.K.

Free ribonucleotides and the activity of some enzymes of the pentose phosphate cycle in the heart muscle in experimental myocardial infarction. Biokhimiia 28 no.1:113-121 Ja-F '63.  
(MIRA 16:4)

1. Chair of Biochemistry, State University, and Biochemical Laboratory, District Military Hospital, Leningrad.  
(HEART--INFARCTION) (NUCLEOTIDES)  
(PENTOSE PHOSPHATES)

VAGNER, V.K.; KOLOTILOVA, A.I.; KOROVKIN, B.F.

Blood serum transketolase reaction in myocardial infarct. Vop.med.khiz.  
10 no.2:158-163 Mr-Apr '64. (MIRA 18:1)

1. Chair of Biochemistry of the A.A.Zhdanov State University Leningrad.

VAGNER, V.K.

Study of the dehydrogenase activity of pentose phosphate cycle  
in the blood serum in some cases of pathology. Vest. LG 20 no.3:  
73-78 '65. (MIRA 18:2)

KOLOTILOVA, A.I.; LYZLOVA, S.N.; VAGNER, V.K.; KOROVKIN, B.F.

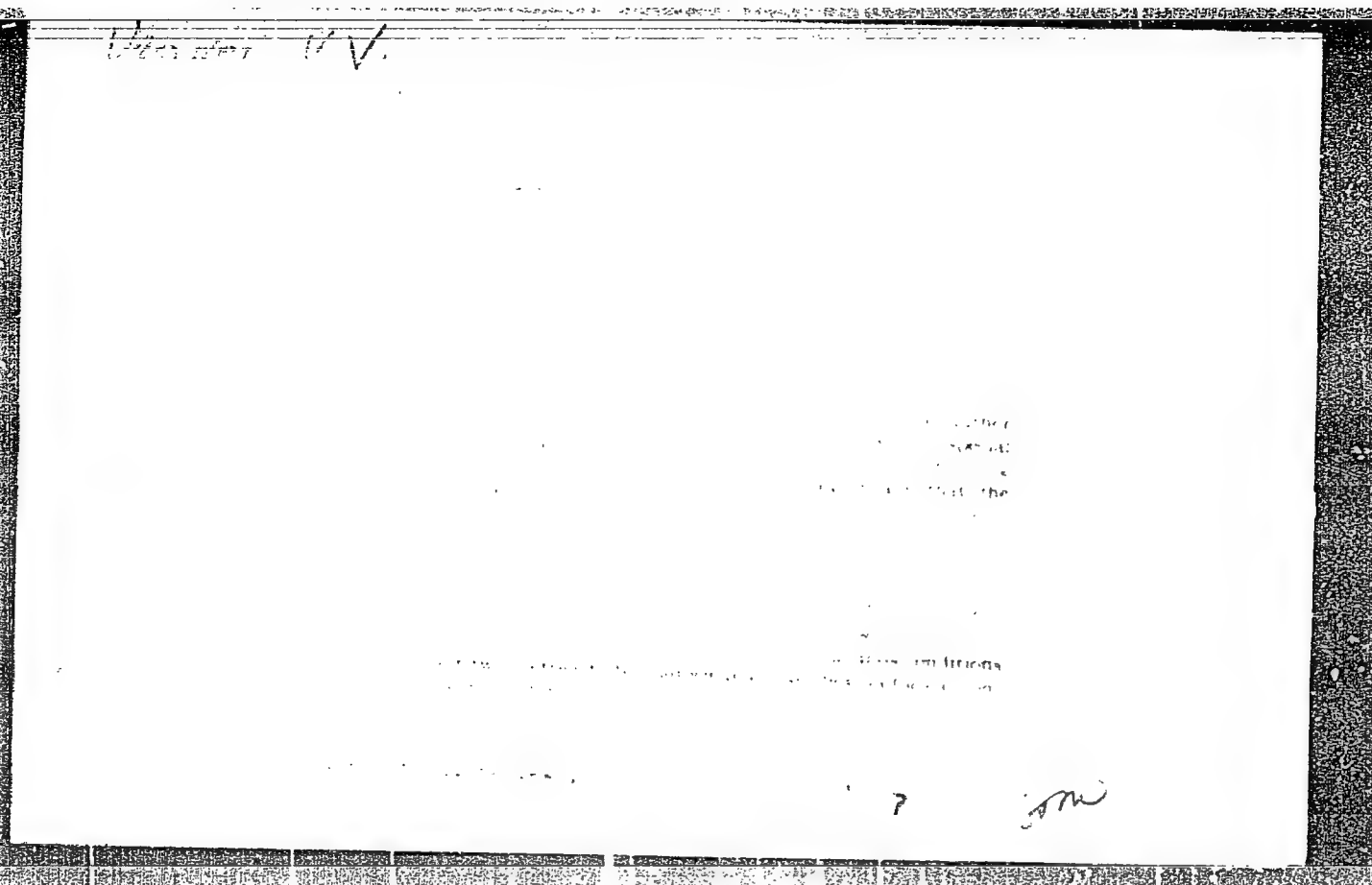
Some biochemical changes in the myocardium and the blood  
at an early stage of experimental myocardial infarct.  
Vop.med.khim. 11 no.5:70-74 S-O '65.

(MIRA 19:1)  
1. Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova.  
Submitted May 25, 1964.



RIGER, L. [Rieger, Ladislav] [deceased]; VAGNER, V.N. [translator];  
YAKUSHEV, A.A., red.; KHAR'KOVSKAYA, L.M., tekhn.red.

[Introduction to the cosmology] Vvedenie v kosmologiyu.  
Moskva, Izd-vo inostr.lit-ry, 1959. 127 p. (MIRA 12:10)  
(Cosmology)



WAGNER, V. V.

THE BUREAU OF THE ARMY OF THE UNITED STATES

**"APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001858330006-7**

**APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001858330006-7"**

VAGNER, V. V.

On the differential geometry of nonholonomic systems, more particularly on the problem of mechanics. One deals with a body whose

the body is listening to it two diametrically opposite

taking the kinetic energy of the body as the fundamental form. The author shows that the Riemannian metric

Source: [illegible] series

*Wagner, U.V.*

Wagner, U.V. (1953) *On the linear connexion of R*  
(Acad. Sci. Proc. A.S.U.S. 1953) 1953  
The author's address: ...  
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Vol. 6 No. 7

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VAGNER, V.

Source: Vagner, V. "Vagner, V."

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STUCHLIK, H.; VAGNER, Vl., inz.

Two-layer filtration using diatomaceous earth. Vodni hosp 15  
no.4:159-160 '65.

1. Zavod pro upravu vody, Prague.

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Wagner J. IV  
SOURCES: THE JOURNAL OF THE  
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VAGNER V

Wagner V. Geometry of the  $n$ -dimensional space

Author states that the book is intended for students of mathematics and physics.

Source: Mathematical Reviews,

Vol 9 No. 7

VAGNER, K. V.

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*Vagner, V.*

considerations to metrics of singularities. By means  
of the asymptotic cone to the singularity, the  
connection. Thus the differential geometry of singular  
metrics is developed, the fundamental theorem is shown  
concerning the asymptotic cone.

ditions of Weierstrass for the existence of a function

VAGNER, V.

PA 20T11;

USSR/Mathematics - Integrals

Jan 1947

"The Geometrical Interpretation of the Extreme Planes of Lagrange's Problem for Multiple Integrals," V. Vagner, 4 pp

"Dok Ak Nauk SSSR" Vol IV, No 2

Presented by A. N. Kolmogorov 17 Jul 1946. Purely mathematical discussion with formulae and the method of their derivation. It can be demonstrated that the normal or slightly abnormal extreme plane of Lagrange's Problem for Multiple Integrals coincides with admissible planes, which can be fitted transversally so that they become the zero mean of a curve. In the event of normal extreme planes this transverse fitting can appear as identical. 20T14

VAGNER, Vladimir, inz.

Batching of chemicals in water stations. Vodni hosp 13 no.3:98-  
100 '63.

1. Zavod pro upravu vody, Praha.

LINDBERG, G.U.; SHCHEDRINA, Z.G.; DOGEL', V.A.; RESHETNYAK, V.V.; STRELKOV, A.A.; KOLTUN, V.M.; NAUMOV, D.V.; IVANOV, A.V.; BYKHOVSKIY, B.Ye. ZHUKOV, Ye.V.; PERGAMENT, T.S.; KOBOTKEVICH, V.S.; USHAKOV, P.V.; KLYUGE, G.A.; ANDROSOVA, Ye.I.; GOSTILOVSKAYA, M.G.; BRODSKIY, K.A.; GUSEV, A.V.; TARASOV, N.I.; GUR'YANOVA, Ye.F.; VAGIN, V.L.; LOMAKINA, N.B.; BULYCHEVA, A.I.; KOBLYAKOVA, Z.I.; LOZINO-LOZINSKIY, L.K.; YAKOVLEVA, A.M.; GALKIN, Yu.I.; SKARIATO, O.A.; AKIMUSHKIN, I.I.; D'YAKONOV, A.M.; BARANOVA, Z.I.; SAVEL'YEVA, T.S.; SKALKIN, V.A.

List of the fauna of marine waters of southern Sakhalin and southern Kuriles. Issl.dal'nevost.mor.SSSR no.6:173-256 '59.  
(MIRA 13:3)

1. Zoologicheskii institut AN SSSR.  
(Sakhalin--Marine fauna)  
(Kurile Islands--Marine fauna)



VAGNER, V.N.

New project solutions of the hydraulic structures of the Votkinsk  
Hydroelectric Power Station. Trudy Lengidroproekta no.1:90-102

'64.

(MIRA 18:10)

1/2 9 12 21

$F^{\alpha}(\xi^{\alpha}, \partial \xi^{\alpha} / \partial x^{\alpha}) = 0, \alpha = 1, \dots, n$ ; or if the solutions are  
equal for an implicit function  $\xi^{\alpha} = \text{constant}$  for  $\alpha = 1, \dots, n$ .

surface with surface at each point of  $X_n$ , which is the  
n-dimensional indicatrix of the system of differential equa-  
tions. If the solutions  $F^{\alpha}$  are

coordinates of a point in a space  $X_n$ , with each such point

related. By introducing the coordinates  $\xi^{\alpha}$  of the point

VAGNER, V. V.

Calculus of Variations

Theory of a field of local conical surfaces in  $X$  and its application to the calculus of variations and the theory of partial differential equations. Trudy Ser. po vekt. i tenz. anal. No. 6, 1948.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

1. VAGNER, V. V.
2. USSR (600)
4. Physics and Mathematics
7. Fundamentals of the Theory of Algebraic Invariants, G. B. Gurevich.  
(Moscow-Leningrad, State Technical Press, 1948). Reviewed by V. V. Vagner,  
Sov. Kniga, No. 10, 1948.
9. Report U-3081, 16 Jan. 1953, Unclassified.

VAGNER, Viktor Vladimirovich

"The Theory of Differential Objects and the Principles of Differential Geometry: in the book by Veblen, O. and Whitehead, J., Osnovaniya differential'noy geometrii (The Principles of Differential Geometry), translation from the English language, Moscow, 1949.

Bol'shaya Sovetskaya Entsiklopediya, Vol. VI, 2nd ed., Moscow, 1949

VAGNER, V. V.

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"APPROVED FOR RELEASE: 08/31/2001

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VAGNER, V. V.

158T55

USSR/Mathematics - Theory of Sets 21 Nov 49  
Differential Geometry

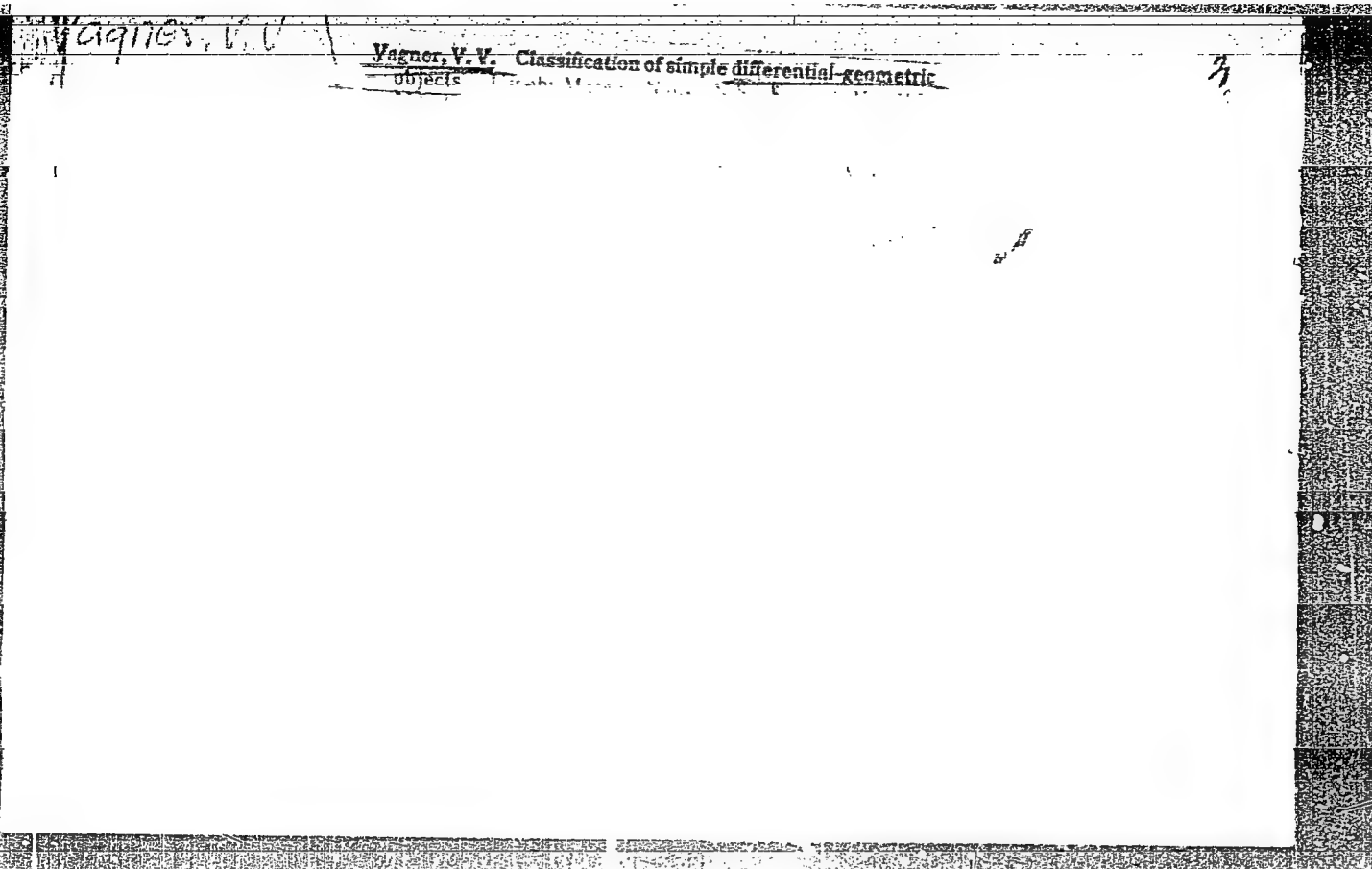
"Classification of Simple Geometric Differential  
Objects," V. V. Vagner, Saratov State U imeni  
Chernyshevskiy, 4 pp

"Dok Ak Nauk SSSR" Vol LXIX, NO 3

Finding of all possible types of N-component  
geometric differential objects in space  $X_n$  re-  
duces to finding all possible continuous transi-  
tive representations (both proper and improper)  
in point sets of arithmetic N-space of differen-  
tial group  $D(v,n)$  defined as group of transfor-  
mation  $vn$  of variables  $x(s)_a$  ( $s = 1, 2, \dots, v$ ).  
Submitted 14 Nov 49 by Acad A. N. Kolmogorov.

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V.F. Kagan, V.V.  
P 2  
16(1)

PHASE I BOOK EXPLOITATION

SOV/1964

Moscow. Universitet. Nauchno-issledovatel'skiy institut matematiki

Trudy seminara po vektornomu i tenzornomu analizu s ikh prilozheniyami k geometrii, mekhanike i fizike, vyp. 8 (Transactions of the Seminar on Vector and Tensor Analysis and Their Applications to Geometry, Mechanics, and Physics; Nr 8) Moscow, Gostekhizdat, 1950. 429 p. 1,500 copies printed.

Ed. (Title page): V.F. Kagan, Professor; Ed. (Inside book): I.M. Yaglom; Tech. Ed.: N.Ya. Murashova.

PURPOSE: This book is intended for professional mathematicians, especially geometricians, and for physicists.

COVERAGE: This book contains some contributions to geometry presented by various leading Soviet mathematicians at the Seminar on Vector and Tensor Analysis, held from January 1, 1948, to July 1, 1949. Applications to physics and mechanics are not discussed in any detail. However, each article is significant for its possible applications in physics, especially the three articles by V. V. Vagner. In his

Card 1/5

Transactions of the Seminar (Cont.)

SOV/1964

article, "The Theory of a Complex Manifold," Vagner constructs a general theory of objects, which turns out to be a generalization of affinor analysis, and determines the operation of the absolute total differentiation, which is important to the applications of variational calculus, for the field of any local differential object. In his second article, "The Geometry of a Space with a Hyperareal Metric as the Theory of a Field of Local Hypersurfaces in a Complex Manifold," Vagner gives the construction of a geometry of a space with hyperareal metric in such a manner that its immediate application to a geometric interpretation of the corresponding variational problem is possible. In his last article, "Theory of a Field of Local Hyperstrips", Vagner discusses the geometry of a regular  $m - 1$  dimensional hyperstrip in an  $n$ -dimensional central affine space as well as the theory of a field of local regular  $m - 1$  dimensional hyperstrips in  $X_n$  and the application of this theory to rigid mechanical systems with nonlinear connections. The following persons submitted reports to the Seminar which are not contained in the book: A. P. Norden, V.F. Kagan, D.L. Pikus, N.N. Yanenko, B.A. Rozenfel'd, P.K. Rashevskiy, Ya.S. Dubnov, V.V. Vagner, I.M. Yaglom, A.Ye. Levashev, V.N. Skrydlov, D.P. Polozkov, M.G. Freydina, N.A. Meller, G.B. Gurevich, A.M. Lopshits, N.V. Yefimov, I.P. Yegorov, and Yu.A. Surinov.

TABLE OF CONTENTS:

Brief Data on the Activities of the Seminar From January 1, 1948, to July 1, 1949 3  
Card 2/5

YAGNER, V. V.

*(The following information was obtained from the above-mentioned sources.)*

Wagner, V. V. The theory of compositional structure. *Journal of Music Theory*, 1974, 18, 1, 1-31. 15 refs.

The author examines the structure of the Whitehead series, a sequence of different theories of difference developed by the philosopher A. N. Whitehead. The series is associated with the concept of the difference manifold, especially in the case of the Whitehead series. The author concludes that the Whitehead series is a continuous series of difference manifolds, and that the Whitehead series is a continuous series of difference manifolds.

[See 14010, 14011, 14012, 14013, 14014, 14015, 14016, 14017, 14018, 14019, 14020, 14021, 14022, 14023, 14024, 14025, 14026, 14027, 14028, 14029, 14030, 14031, 14032, 14033, 14034, 14035, 14036, 14037, 14038, 14039, 14040, 14041, 14042, 14043, 14044, 14045, 14046, 14047, 14048, 14049, 14050, 14051, 14052, 14053, 14054, 14055, 14056, 14057, 14058, 14059, 14060, 14061, 14062, 14063, 14064, 14065, 14066, 14067, 14068, 14069, 14070, 14071, 14072, 14073, 14074, 14075, 14076, 14077, 14078, 14079, 14080, 14081, 14082, 14083, 14084, 14085, 14086, 14087, 14088, 14089, 14090, 14091, 14092, 14093, 14094, 14095, 14096, 14097, 14098, 14099, 14100, 14101, 14102, 14103, 14104, 14105, 14106, 14107, 14108, 14109, 14110, 14111, 14112, 14113, 14114, 14115, 14116, 14117, 14118, 14119, 14120, 14121, 14122, 14123, 14124, 14125, 14126, 14127, 14128, 14129, 14130, 14131, 14132, 14133, 14134, 14135, 14136, 14137, 14138, 14139, 14140, 14141, 14142, 14143, 14144, 14145, 14146, 14147, 14148, 14149, 14150, 14151, 14152, 14153, 14154, 14155, 14156, 14157, 14158, 14159, 14160, 14161, 14162, 14163, 14164, 14165, 14166, 14167, 14168, 14169, 14170, 14171, 14172, 14173, 14174, 14175, 14176, 14177, 14178, 14179, 14180, 14181, 14182, 14183, 14184, 14185, 14186, 14187, 14188, 14189, 14190, 14191, 14192, 14193, 14194, 14195, 14196, 14197, 14198, 14199, 14200, 14201, 14202, 14203, 14204, 14205, 14206, 14207, 14208, 14209, 14210, 14211, 14212, 14213, 14214, 14215, 14216, 14217, 14218, 14219, 14220, 14221, 14222, 14223, 14224, 14225, 14226, 14227, 14228, 14229, 14230, 14231, 14232, 14233, 14234, 14235, 14236, 14237, 14238, 14239, 14240, 14241, 14242, 14243, 14244, 14245, 14246, 14247, 14248, 14249, 14250, 14251, 14252, 14253, 14254, 14255, 14256, 14257, 14258, 14259, 14260, 14261, 14262, 14263, 14264, 14265, 14266, 14267, 14268, 14269, 14270, 14271, 14272, 14273, 14274, 14275, 14276, 14277, 14278, 14279, 14280, 14281, 14282, 14283, 14284, 14285, 14286, 14287, 14288, 14289, 14290, 14291, 14292, 14293, 14294, 14295, 14296, 14297, 14298, 14299, 14300, 14301, 14302, 14303, 14304, 14305, 14306, 14307, 14308, 14309, 14310, 14311, 14312, 14313, 14314, 14315, 14316, 14317, 14318, 14319, 14320, 14321, 14322, 14323, 14324, 14325, 14326, 14327, 14328, 14329, 14330, 14331, 14332, 14333, 14334, 14335, 14336, 14337, 14338, 14339, 14340, 14341, 14342, 14343, 14344, 14345, 14346, 14347, 14348, 14349, 14350, 14351, 14352, 14353, 14354, 14355, 14356, 14357, 14358, 14359, 14360, 14361, 14362, 14363, 14364, 14365, 14366, 14367, 14368, 14369, 14370, 14371, 14372, 14373, 14374, 14375, 14376, 14377, 14378, 14379, 14380, 14381, 14382, 14383, 14384, 14385, 14386, 14387, 14388, 14389, 14390, 14391, 14392, 14393, 14394, 14395, 14396, 14397, 14398, 14399, 14400, 14401, 14402, 14403, 14404, 14405, 14406, 14407, 14408, 14409, 14410, 14411, 14412, 14413, 14414, 14415, 14416, 14417, 14418, 14419, 14420, 14421, 14422, 14423, 14424, 14425, 14426, 14427, 14428, 14429, 14430, 14431, 14432, 14433, 14434, 14435, 14436, 14437, 14438, 14439, 14440, 14441, 14442, 14443, 14444, 14445, 14446, 14447, 14448, 14449, 14450, 14451, 14452, 14453, 14454, 14455, 14456, 14457, 14458, 14459, 14460, 14461, 14462, 14463, 14464, 14465, 14466, 14467, 14468, 14469, 14470, 14471, 14472, 14473, 14474, 14475, 14476, 14477, 14478, 14479, 14480, 14481, 14482, 14483, 14484, 14485, 14486, 14487, 14488, 14489, 14490, 14491, 14492, 14493, 14494, 14495, 14496, 14497, 14498, 14499, 14500, 14501, 14502, 14503, 14504, 14505, 14506, 14507, 14508, 14509, 14510, 14511, 14512, 14513, 14514, 14515, 14516, 14517, 14518, 14519, 14520, 14521, 14522, 14523, 14524, 14525, 14526, 14527, 14528, 14529, 14530, 14531, 14532, 14533, 14534, 14535, 14536, 14537, 14538, 14539, 14540, 14541, 14542, 14543, 14544, 14545, 14546, 14547, 14548, 14549, 14550, 14551, 14552, 14553, 14554, 14555, 14556, 14557, 14558, 14559, 14560, 14561, 14562, 14563, 14564, 14565, 14566, 14567, 14568, 14569, 14570, 14571, 14572, 14573, 14574,

Source: Mathematical Reviews.

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VAGNER, V. V.

USSR/Mathematics - Differential  
Geometry

21 May 50

"Theory of Pseudogroups of Transformations,"  
V. V. Vagner, Saratov State U imeni N. G.  
Khernyshevskiy

"Dok Ak Nauk SSSR" Vol LXXII No 3, pp 453-456

In present-day differential geom great signif-  
icance is attached to pseudogroups of transfor-  
mations, especially those of Lie, whose study is  
closely connected with theory of geom differen-  
tial objects. Vagner tries to establish certain  
gen propositions of this theory. Submitted 30 Mar  
50 by Acad I. G. Petrovskiy.

175T38

Vagner, V. V. The geometry of the generalized Cartan spaces and the theory of geometric differential objects. Doklady Akad. Nauk SSSR (N.S.) 77, 777-780 (1951). (Russian)

The geometry of an arbitrary Klein space reduces to the geometry of a manifold  $X_n$  with given characteristic geometric object which the pseudogroup of invariance reduces to a Lie group of point transformations of the  $X_n$  in itself. (Reference is made to an essay by the author entitled "Supplement to the book of O. Veblen and J. Whitehead, Foundations of geometry", 1929.) Cartan's method of Klein spaces in form of fields with nonholonomic connections corresponding to a Lie group gives a group of  $2n$ . The present paper relates the Cartan spaces to the author's theory, but, partly because the notation is not always well explained, it is not self-explanatory. The author is an  $X_n$  in  $X_n$  which connects  $dx^i$  and  $dy^j$  in  $dx^i = 0$  and a field of points  $g(t)$  along the curve  $x^i = g(t)$  of the base space. Equation  $dx^i = g^i(t)dt$  is considered of the  $g^i(t)$  spaces. An association of points in the base space with points in the manifold  $X_n$  is established. The author is dealing with the case of the imbedding of the two spaces. If  $g^i(t)$  is a vector  $g^i(t)$  in the tangent space  $T_x(X_n)$  of order  $n$  associated with the point  $x$  in  $X_n$ , then  $g^i(t)$  is called the vector of deviation of order  $n$  of the given field of local points of the manifold  $X_n$  on the basis of the definition of the point  $x$  of the vector space of points in the base space. The author's paper is also made to the author's paper reviewed above.

D. J. Stewart (Cambridge, Mass.)

Source: Mathematical Reviews.

USSR/Mathematics - Differential Groups 21 Oct 51

"Algebraic Theory of Differential Groups," V. V. Vagner, Saratov State U imeni N. G. Chernyshevsky

"Dok Ak Nauk SSSR" Vol LXXX, No 6, pp 845-848

The theory of geometric differential objects leads in the main to the theory of representations of the differential group  $D(y, n)$ , defined as a group of transformations of all differentials up to order  $v$  inclusively of  $n$  variables  $x^a$  during arbitrary regular transformations of these variables (of class differentiability equal to  $v$ ), which preserve

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the system of initial values of the variables. The aim of the current article is the purely algebraic determination of the group  $D(y, n)$  and certain of its representations and direct products corresponding to especially important ordinary and connecting geometric differential objects. Submitted 29 Jul 51 by Acad A. N. Kolmogorov.

217761

VAGNER, V. V.

VAGNER, V.V.

USSR/Mathematics - Modern Algebra, Set 21 Dec 51

Theory

"Ternary Algebraic Operation in the Theory of Co-ordinated Structures," V. V. Vagner

"Dok Ak Nauk SSSR" Vol LXXXI, No 6, pp 981-984

In contemporary differential geometry (cf. Veblen and Whitehead, 1949),  $n$ -dimensional space is most often defined as an arbitrary set  $A$  acting as the continuum, for which we assign a certain set of mutually unique partial reflections (that is, mutually single-valued reflections of certain of its subsets) on to open sets of  $n$ -dimensional

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arithmetic spaces; here the subsets on which these reflections are defined cover all the entire set  $A$ . Submitted 24 Oct 51 by Acad I. G. Petrovskiy.

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VAGNER, V.V.

Mathematical Reviews  
Vol. 14 No. 10  
Nov. 1953  
Geometry

7-15-54  
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Vagner, V. V. General affine and central projective geometry of a hypersurface in a central affine space and its application to the geometrical theory of Carathéodory's transformations in the calculus of variations. Trudy Sem. Vektor. Tenzor. Analizu 9, 75-145 (1952). (Russian)

This paper is closely related to the author's papers in the same Trudy 7, 65-166 (1949); 8, 144-196 (1950) [these Rev. 13, 777] and those on affine and central projective geometry of curves and surfaces developed by Dubnov [ibid. 8, 106-127 (1950); these Rev. 13, 776] and Dubnov and Skrydlov [ibid. 8, 128-143 (1950); these Rev. 13, 777]. The first sections deal with the contact of arbitrary order of  $m$ -dimensional surfaces in a central-affine  $E_n$  and its osculating hypersurfaces of given order and class. Then the influence of projective transformations in the  $E_n$  is studied. The fourth section is a discussion of the hyperquadrics of Darboux. The next sections deal with the affine and central-projective normals of a hypersurface and the general theory of hypersurfaces in a central affine  $E_n$  under transformations of the affine and central-projective group. The theory is applied to affine hyperspheres (all normals through one point) and hyperquadrics (Darboux tensor vanishes). The paper ends with the general theory of curves under the same groups.

D. J. Struik (Cambridge, Mass.).

VAGNER, V. V.

232T86

USSR/Mathematics - Modern Algebra, 1 Jun 52  
Set Theory

"Theory of Partial Transformations," V. V. Vagner  
"Dok Ak Nauk SSSR" Vol 84, No 4, pp 653-656

The assigning of a binary relation between the elements of a certain set  $A$  is equiv to the assigning of a subset  $\rho$  in  $A \times A$  consisting of all pairs  $(a_1, a_2)$  of elements between which there holds a given relation and designated by the graph of this binary relation. In this article the author identifies the binary relations and their graphs

232T86

and designates them by identical symbols. Cf. J. Riguet, Bull Soc Math France 76, 114, 1948; N. Burbaki, Theorie des ensembles, 1939. Submitted by Acad M. N. Kolmogorov 9 Apr 52.

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VAGNER, V.V.

Groups, Theory of

Generalized groups. Dokl. AN SSSR 24 No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952, UNCLASSIFIED

VAGNER, V. V.

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✓ Vagner, V. V. The theory of generalized heaps and generalized groups. Mat. Sbornik N.S. 32(74), 545-632 (1953). (Russian)

Dans une note récente [Doklady Akad. Nauk SSSR (N.S.) 84, 1119-1122 (1952); ces Rev. 14, 12] l'auteur avait introduit le concept de groupe généralisé (ensemble muni d'une multiplication associative pour laquelle tous les idempotents sont permutable et où tout élément  $x$  admet un "inverse généralisé"  $x^{-1}$  tel que  $xx^{-1}x = x$ ) et avait montré qu'il permettait de caractériser abstraitement les ensembles multiplicatifs de relations biunivoques sur un même ensemble qui contiennent la symétrique de toute relation leur appartenant. Le présent travail consiste essentiellement à construire le concept d'amas généralisé afin de permettre une caractérisation analogue des ensembles de relations biunivoques sur deux ensembles qui contiennent  $\Sigma_1 \Sigma_2^{-1} \Sigma_3$  pour tout triple  $\Sigma_1, \Sigma_2, \Sigma_3$  d'éléments leur appartenant et à le relier au concept de groupe généralisé.

Etant donné deux ensembles  $A$  et  $B$ , si à trois relations binaires  $R_1 \subset A \times B$ ,  $R_2 \subset A \times B$ ,  $R_3 \subset A \times B$  on associe  $[R_1, R_2, R_3] = R_1 R_2^{-1} R_3$ , on définit ainsi une opération ternaire sur  $\mathcal{P}(A \times B)$  qui le transforme en demi amas dans le sens suivant: Un ensemble muni d'une opération ternaire  $[ , ]$  sera appelé demi amas lorsque pour tout quintuple

Mathematical Review.  
June 1954  
Algebra



$k_1, k_2, k_3, k_4, k_5$  d'éléments de cet ensemble on a

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$$[[k_1, k_2, k_3], k_4, k_5] = [k_1, [k_2, k_3, k_4], k_5] \\ = [k_1, k_2, [k_3, k_4, k_5]].$$

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V. V. V. V.

Un élément  $k$  sera dit biunitaire lorsque, quel que soit  $h$ ,  $[k, h, h] = [h, h, k] = h$ . Par définition un amas est un demi amas dont tous les éléments sont biunitaires. L'opération ternaire  $[g_1, g_2, g_3] = g_1 g_2^{-1} g_3$  qui permet de considérer tout groupe comme un amas avait été étudiée par H. Prüfer [Math. Z. 20, 165-187 (1924)] pour les groupes abéliens et par R. Baer [J. Reine Angew. Math. 160, 199-207 (1929)] et J. Certaine [Bull. Amer. Math. Soc. 49, 869-877 (1943); ces Rev. 3, 227] pour les groupes.

Le travail comprend cinq parties: Dans la première on étudie idéaux et équivalences dans les demi amas et on donne une généralisation d'un théorème du  $\checkmark$  Lyapin [Izvestiya Akad. Nauk SSSR. Ser. Mat. 14, 179-192 (1950); ces Rev. 11, 575]. Dans la seconde on établit la liaison entre demi amas et demi groupes involutifs (c'est-à-dire, ensembles munis d'une multiplication associative et d'un antiautomorphisme d'ordre 2 pour cette multiplication). Tout demi groupe involutif est de manière évidente un demi amas. Réciproquement, si  $K$  est un demi amas ayant un élément biunitaire  $e$  et si l'on pose  $k_1 k_2 = [k_1, e, k_2]$ ,  $k^{-1} = [e, k, e]$ ,  $K$  devient un demi groupe involutif  $K_e$  et tous les demi groupes involutifs  $K_e$  sont isomorphes,  $x$  parcourant l'ensemble des éléments biunitaires. Tout demi amas peut être plongé dans un demi groupe involutif. Dans la troisième on définit le concept d'amas généralisé: c'est un

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semi amas dont tous les éléments sont idempotents (c'est-à-dire,  $x = [x, x, x]$ ) et bipermutables (c'est-à-dire, pour tout triple  $k, k_1, k_2$  on a  $[k, k_1, k_2] = [k, k_2, k_1]$ ,  $[k_1, k, k_2] = [k_1, k_2, k]$ ). Tout group généralisé considéré comme demi amas est un amas généralisé. Tout amas généralisé peut être plongé dans un groupe généralisé.

La quatrième partie définit et étudie deux types spéciaux de relations binaires dans les amas et les groupes généralisés: les relations de communion et d'ordre canonique. On y trouve une généralisation d'un théorème de D. Rees [J. London Math. Soc. 22, 281-284 (1948); ces Rev. 9, 568] relative à l'ensemble des équivalences  $R$  sur un groupe généralisé  $G$  telles que  $G/R$  est un groupe. Dans la cinquième partie on montre que, pour que  $K$  soit un amas généralisé, il faut et il suffit qu'il soit isomorphe à un demi amas de relations biunivoques entre éléments de deux ensembles. (L'ordre canonique est alors l'ordre d'inclusion et la relation de communion entre  $Z_1$  et  $Z_2$  a lieu lorsque  $Z_1 \cup Z_2$  est une biunivoque du demi amas.) On donne un certain nombre de propriétés des amas généralisés de relations quasi fonctionnelles  $R$  (c'est-à-dire, telles que  $RR^{-1} \subset \Delta$ ).

L'exposé fait systématiquement appel à la théorie des relations binaires en s'appuyant sur le travail du rapporteur [Bull. Soc. Math. France 76, 114-155 (1948); ces Rev. 10, 502]. Il est signalé dans la préface que les groupes et amas généralisés de biunivoques jouent un rôle important en géométrie, par exemple, pour les systèmes de coordonnées locaux [Vagner, Doklady Akad. Nauk SSSR (N.S.) 81,

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VagneY, V. V.

981-984 (1951); ces Rev. 13, 688 J. Encore a titre d'exemple, les transformations conformes du plan définies par des fonctions analytiques a une seule branche pour lesquelles l'équation différentielle de définition exprime la condition de Cauchy-Riemann pour les fonctions analytiques forment un groupe généralisé.

J. Riquet (Paris).

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44-1-160

Translation from: Referativnyy Zhurnal, Matematika, 1957, Nr 1, p. 21 (USSR)

AUTHOR: Vagner, V. V.

TITLE: Generalized Cosets Reduced to Generalized Groups (Obobshchennyye grudy, privodimyye k obobshchennym gruppam)

PERIODICAL: Nauch. yezhegodnik za 1954 g. Saratovsk. un-t. Saratov, 1955, pp. 668-669,

ABSTRACT: Necessary and sufficient conditions are given for making it possible to introduce into the set of all elements of the generalized coset  $K$  the operation of multiplication; with regard to this operation,  $K$  is a generalized group, and the ternary operation  $[g_1, g_2, g_3] = g_1 g_2^{-1} g_3$  coincides with the ternary operation given in  $K$ .

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Ye. S. Lyapin.

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~~Algebraic matters in differential geometry foundations.~~ Uch.zap.  
(MIRA 10:5)  
Kaz.un. 115 no.10:3-4 '55.  
(Geometry, Differential)

VAGNER, V.V. (Saratov)

Methods of differential geometry in the calculus of variations.  
(MLRA 10:5)  
Uch.zap.Kaz.un. 115 no.10:4-7 '55.  
(Calculus of variations)  
(Geometry, Differential)

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Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237pp.  
Azletskiy, S. P. (Sverdlovsk). Sylow Class System and Some Problems of the Theory of Finite Groups. 17

Mention is made of Chunikhin, S. A. There are 2 references, both of them USSR. 17

Andrunakiyevich, V. A. (Moscow). Associative Rings With Minimal Two-sided Ideals. 18

There are 6 references, all of which are English.

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Vilenkin, H. Ya. (Moscow). The Theory of Topological Abelian Groups. 20

Mention is made of Pontryagin, L. S.

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VAGNER, V.V.

Generalized heaps reducible to generalized groups. Ukr. mat. zhur.  
8 no.3:235-253 '56. (MLRA 10:9)

(Groups, Theory of)



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definierten Ideen für die W. Barak (Hammam)

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Semigroups of partial transformations with a symmetric ratio  
of transitivity. Izv.vys.ucheb.zav.; mat. no.1:81-88 '57.  
(MIRA 12:10)

1. Saratovskiy gosudarstvennyy universitet im. N.G.Chernyshev-  
skogo. (Groups, Theory of)

1

16(1)

AUTHOR: Vagner, V.V.

SOV/41-11-3-1/16

TITLE: Representation of Generalized Heaps

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1959, Vol 11, Nr 3,  
pp 231-242 (USSR)

ABSTRACT: The author treats the notions already considered in [Ref 5,6].  
The principal result is the statement that every generalized  
heap has a proper representation with the aid of one-to-one  
partial mappings. Eight theorems are formulated altogether.  
There are 6 references, 2 of which are Soviet, and 4 French.

SUBMITTED: May 23, 1958

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Ehresmann's theory of jets. Dokl. AN SSSR 152 no.1:17-19 S  
'63. (MIRA 16:9)

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A.I. Mal'tsevym. (Topology)

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Semidirect products of binary relations and binary expandable  
semigroups. Izv. vys. ucheb. zav.; mat. no.1:21-32 '63. (MIRA 16:5)

1. Saratovskiy gosudarstvennyy universitet imeni N.G.Chernyshevskogo.  
(Aggregates) (Groups, Theory of)